UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MARK S. ANVICK

Appeal No. 2005-0540
Application No. 09/942,199

ON BRIEF

Before FRANKFORT, McQUADE, and NASE, Administrative Patent Judges.

NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 17, which are all of the claims pending in this application.

We AFFIRM.

BACKGROUND

The appellant's invention relates to a puzzle joint system for use in joining wood products such as a chair and table components (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Pontikas	4,809,755	Mar. 7, 1989
Grisley	5,114,265	May 19, 1992

Claims 1 to 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Grisley in view of Pontikas.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejection, we make reference to the final rejection (mailed May 2, 2003) and the answer (mailed December 12, 2003) for the examiner's complete reasoning in support of the rejection, and to the brief (filed November 6, 2003) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

In the rejection before us in this appeal (final rejection, pp. 2-6; answer, pp. 3-5), the examiner (1) made explicit findings as to the teachings of Grisley and Pontikas; (2) ascertained[1] the differences between Grisley and each of the independent claims under appeal (i.e., claims 1, 6 and 12); and (3) concluded that based on the combined

[1] After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

teachings of Grisley and Pontikas that it would have been obvious at the time the invention was made to a person of ordinary skill in the art to have modified Grisley so as to arrive at the subject matter of claims 1, 6 and 12.

The appellant argues (brief, pp. 2-7) that the subject matter of claims 1, 6 and 12 would not have been obvious in view of the Grisley or Pontikas patents, taken singly or together. With respect to Grisley, the appellant submitted that:

> the Grisley patent does not disclose or suggest that "the first and second flat members, when joined, lie in the same plane and are disposed at a predetermined noncollinear angle with respect to each other". The Grisley patent discloses or suggests right-angled and collinear joints and articles constructed using such joints which does not produce a frame structure or a flat, coplanar, frame structure having flat members, that when joined, lie in the same plane and are disposed at a predetermined noncollinear angle with respect to each other. . . .
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> . . .
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> With regard to the Grisley patent, it is respectfully submitted that none of the joints disclosed therein have a structure wherein a cavity is formed in a first flat member that has a depth that extends a predetermined distance below the first flat surface, and wherein a second flat member has a tab formed therein that has a thickness that substantially matches the depth of the cavity formed in the first flat member. In the present invention, the cavity is formed in the first member that is about one half the thickness of the first member, and the mating, interlocking tab has a thickness that is about one half the thickness of the second member so at to fit in the cavity in the first member.

With respect to Pontikas, the appellant submitted that:

> none of the joints disclosed therein have a structure wherein a cavity is formed in a first flat member that has a depth that extends a predetermined distance below the first flat surface, and wherein a second flat member has a tab formed therein that has a thickness that substantially matches the depth of the cavity formed in the first flat member. The only joint structures relating to the formation of planar structures (shown in Fig. 20) uses a plurality of dovetail joints wherein the protrusions and cutouts are the entire thickness of the respective wood pieces. There is no disclosure or suggestion in the Grisley patent regarding the use of interlocking joints wherein the indents and protrusions are a portion of the thickness of the respective wood pieces, as is employed in the present invention.

The appellant then concludes that with specific regard to independent claim 1, that:

> the Grisley and Pontikas patents, taken singly or together, do not disclose or suggest ajoint system comprising "a cavity formed in the first flat member . . . that has a depth that extends a predetennined distance below the first flat surface, and wherein the depth of the cavity is a predetermined portion of the thickness of the flrst flat member" and "a second flat member ... having a tab ... that ... fits within the cavity, which tab has a thickness that substantially matches the depth of the cavity formed in the first flat member." [Emphasis in original] Thus, in the invention recited in claim 1, the tab and the cavity have a thickness and depth that are a portion of the overall thickness of the first and second flat members. This is not the case with the joints disclosed in the Grisley and Pontikas patents.

With regard to independent claim 6, the appellant makes the same argument as raised with respect to claim 1. In addition, the appellant argues that the recitations that first flat member "comprises a single cavity" and the second flat member "comprises a

single tab" further define over the teachings of the Grisley and Pontikas patents since these patents teach the use of multiple cavities and tabs.

With regard to independent claim 12, the appellant makes the same argument as raised with respect to claim 1. In addition, the appellant argues that

> the Grisley and Pontikas patents, taken singly or together, do not disclose or suggest a first flat member that "comprises a cavity having ... a depth that extends a first predetermined distance below the first flat surface", a second flat member that "comprises a cavity" that "has a depth that extends a second predetermined distance below the first flat surface", and "a third flat member ... that comprises first and second tabs with outer partially curved contours that substantially match the respective inner partially curved contours of the first and second cavities and that fit within the respective first and second cavities, and wherein the first, second and third flat members, when joined, lie in the same plane and are disposed at a predetermined noncollinear angles with respect to each other."

In our view, the combined teachings of Grisley and Pontikas would have made it obvious at the time the invention was made to a person of ordinary skill in the art to have modified Grisley's flat, collinear, coplanar interlocking joint disclosed in the embodiment shown in Figure 8 to be a flat, noncollinear, coplanar interlocking joint in view of the following teachings of Grisley and Pontikas. Grisley teaches (column 2, lines 66-68) various embodiments in which two board ends are joined together to form an interlocking joint in either a 90° corner joint, a 180° straight in line joint, an obtuse joint or an acute joint. Pontikas also teaches various embodiments in which two board

ends are joined together to form an interlocking joint. Figures 18-19 of Pontikas disclose a dovetail 90° corner joint.[2] Figure 20 of Pontikas discloses a flat, noncollinear, coplanar interlocking dovetail joint for connecting the edges of a frame. Figure 15 of Pontikas discloses an angled box joint made from three flat members.

We find the appellant's arguments for patentability unpersuasive for the reasons set forth by the examiner in the answer (pp. 5-8).[3] While the appellant may be correct, that neither Grisley or Pontikas teach (i.e., anticipate) the entire subject matter of claims 1, 6 and 12, nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. See In re Merck & Co. Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986).

With regard to the appellant's argument that here is no disclosure or suggestion in the Grisley patent regarding the use of interlocking joints wherein the indents and protrusions are a portion of the thickness of the respective wood pieces, we note, as did the examiner, the claims do not specifically recite that the protrusion is a portion of the

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[2] But for the construction of the interlocking joint, Pontikas' 90° corner joint is similar to the 90° corner joints shown in Figures 4-7 of Grisley.

[3] On page 9 of the answer, the examiner refers to a reference of record that has not been applied in the rejection under appeal. This reference has been given no consideration since it was not included in the rejection under appeal. See Ex parte Raske, 28 USPQ2d 1304, 1305 (Bd. Pat. App. & Int. 1993).

thickness of its wood piece. Moreover, such is explicitly taught by the flat, collinear, coplanar interlocking joint disclosed in the embodiment shown in Figure 8 of Grisley.

With regard to independent claim 6, it is our view that the recitations that the first flat member "comprises a single cavity" and the second flat member "comprises a single tab" do not restrict the claimed subject matter to only one cavity and only one tab due to the use of comprising terminology.[4] Thus, these recitations do not define over the teachings of the Grisley and Pontikas patents which teach the use of multiple cavities and tabs.

With regard to independent claim 12, it is our view that the combined teachings of Grisley and Pontikas are suggestive of the claimed three flat members in view of the teaching of Pontikas' Figure 20 which illustrates one corner of a flat, noncollinear, coplanar interlocking dovetail joint for connecting the edges of a frame. From this teaching of Pontikas, it would have been obvious at the time the invention was made to a person of ordinary skill in the art to have modified Grisley to form a flat, noncollinear, coplanar frame, with the frame having interlocking joints as taught by Grisley.

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[4] The transitional phrase "comprises" is open-ended and does not exclude additional, unrecited cavities and tabs.

For the reasons set forth above, the decision of the examiner to reject claims 1, 6 and 12 is affirmed.

Claims 2 to 5, 7 to 11 and 13 to 17 which depend from claims 1, 6 and 12 have not been separately argued by the appellant. Accordingly, we have determined that these claims must be treated as falling with their respective independent claim. See In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987) and 37 CFR §§ 1.192(c)(7) and 1.192(c)(8)(iv). Thus, it follows that the examiner's rejection of claims 2 to 5, 7 to 11 and 13 to 17 under 35 U.S.C. § 103 is also sustained.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 17 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHARLES E. FRANKFORT
Administrative Patent Judge

JOHN P. McQUADE
Administrative Patent Judge

JEFFREY V. NASE
Administrative Patent Judge

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